Does Screening or Providing Information on Resources for Intimate Partner Violence Increase Women's Knowledge? Findings from a Randomized Controlled Trial

Joanne Klevens[1], **Laura S. Sadowski**[2], **Romina Kee**[2], and **Diana Garcia**[3]

[1]Centers for Disease Control and Prevention, Atlanta, USA

[2]Department of Medicine, Stroger Hospital of Cook County, Chicago, USA

[3]Hektoen Medical Research Institute, Chicago, IL, USA

Abstract

Background—Screening for IPV in health care settings might increase women's knowledge or awareness around its frequency and its impact on health. When IPV is disclosed, assuring women it is not their fault should improve their knowledge that IPV is the perpetrator's responsibility. Providing information about IPV resources may also increase women's knowledge about the availability of solutions.

Methods—Women (n=2708) were randomly assigned to one of three groups: (1) partner violence screen plus video referral and list of local partner violence resources if screening was positive (n=909); (2) partner violence resource list only without screen (n=893); and (3) a no-screen, no-partner violence resource list control group (n=898). One year later, 2364 women (87%) were re-contacted and asked questions assessing their knowledge of the frequency of partner violence, its impact on physical and mental health, the availability of resources to help women experiencing partner violence, and that it is the perpetrator's fault.

Results—There were no differences between women screened and provided with a partner violence resource list compared to a control group as to women's knowledge of the frequency of IPV, its impact on physical or mental health, or the availability of IPV services in their community. However, among women who experienced IPV in the year before or year after enrolling in the trial, those who were provided a list of IPV resources without screening were significantly less likely to know that IPV is not the victim's fault than those in the control or list plus screening conditions.

Conclusions—The results of this study suggest that providing information on partner violence resources, with or without asking questions about partner violence, did not result in improved knowledge.

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[*]**Corresponding author**: Joanne Klevens, MD, PhD., Division of Violence Prevention at the Centers for Disease Control and Prevention (CDC), 4770 Buford Hwy, Mailstop F-63, Atlanta, GA 30341, USA, Tel: 770-488-1386; Fax: 770-488-4222; jklevens@cdc.gov.

Introduction

Although screening women for intimate partner violence (IPV) with provision of IPV resource information may not have an impact on women's overall health or recurrence of IPV [1,2], it has shown positive impact on reproductive coercion (e.g., birth control sabotage, pressure to get pregnant) [3], preterm births and newborns with very low birth weight [4], substantiated reports of child maltreatment [5], and mothers' self-reported psychological and physical aggression toward children [6]. Screening may also increase detection of IPV, discussion about it with health care providers [7,8], and referrals to IPV services [9,10]. In addition, a small cross-sectional survey suggests screening and referral may also increase women's awareness of the frequency of IPV, its impact on health, the resources available, and that the perpetrator is the responsible party [11]. Experimental research of screening and referral with a larger sample might help confirm these findings.

Screening or routine inquiry for IPV in health care settings might increase women's knowledge or awareness about IPV in at least two ways. Routine questions about IPV, especially if prefaced by comments referring to its frequency, might lead women to perceive IPV to be a common condition for women. In addition, when asked in a health care setting, women might also make the connection between IPV and poor health [12]. When IPV is disclosed, assuring women it is not their fault should improve acknowledgement of perpetrators' responsibility for IPV. Providing information about IPV resources could also increase women's knowledge about the availability of solutions.

Information about IPV could be provided to all women without screening [13]. This approach would probably be less costly to implement compared to screening and referral and may be more respectful of women's autonomy in making use of existing IPV services. However, whether this approach increases women's awareness of available IPV resources (e.g., women may not be able to or want to read the information) or have other effects on women's knowledge around IPV needs to be determined.

Answers to these questions are important because according to the transtheoretical model of health behavior change [14], knowing the impact of a problem on health and the options available may help individuals move towards contemplating change and taking action. A recent qualitative study suggests this type of knowledge may contribute to contemplating action among women exposed to IPV [15].

This paper reports secondary analyses using data collected in a randomized controlled trial (RCT). These analyses examine whether: (1) screening (plus information about IPV resources if positive) is equal to or better than providing all women IPV resource information without screening; and (2) whether either intervention is better than usual care in terms of women's knowledge of the prevalence of IPV, IPV's impact on health, or available IPV resources. Because information about IPV may impact women differentially

according to their experiences with IPV, these outcomes are examined among four subgroups: women experiencing any IPV in their lifetime, women experiencing IPV in the year previous to enrollment, women experiencing IPV in the year after enrollment, and women who have never experienced IPV.

Methods

The data for this study come from a three-arm RCT conducted in ten primary health care clinics (eight public and two private) in Chicago to establish the impact of screening and referral on women's health (see [1] for a complete description of the original study). Participants in this RCT were limited to adult, English or Spanish speaking women seeking clinical services at these clinics, with access to a telephone, and willing to share contact information for at least one reliable phone number for follow-up. Women were excluded from participation if they were accompanied by their partner and could not be safely separated at the clinical enrollment site, accompanied by a child over 3 years of age without alternative adequate provision for child care, or visually, hearing or mentally impaired. Women were recruited from May 2009 thru April 2010 and assessed at enrollment and again one year later.

Randomization process and description of study groups

The randomization procedure was built into the computer system along with the audio-computer-assisted self-interview (A-CASI) program; the automated randomization procedure occurred after the participant had given her consent and was entered into the system. Participants were randomized to one of three groups using blocks of 30 (i.e., 10 per block) and stratified by clinical site, with allocation concealed from participants and research assistants. The groups were:

1. A "screen-plus-resource-list" group in which women were screened by an Audio-Computer-Assisted-Self-interview (ACASI) using the three-item Partner Violence Screen (PVS) instrument [16]. The PVS assesses the presence of physical IPV in the past year (hit, kicked, punched or otherwise hurt) and women's perception of being 'safe' in her current relationship or a partner from a previous relationship making her feel unsafe. In the introduction to the three screening questions, women were told "Violence is a problem for many women. Because it affects their health, we are asking our patients about it". Women screening positive were shown a brief video on the computer screen in which an IPV advocate mentioned that one in four women will experience IPV during their lifetime, that IPV harms women's health and gave both physical and mental health examples of this harm; emphasized that IPV was not her fault; informed her that help such as the local hospital-based IPV advocacy program was available, telephone numbers of several IPV services would be on the printout she would receive after the video, and encouraged the viewer to seek help. After the video, IPV positive women received a computer printout of contact information for the local IPV advocacy program, the local and national 24-hour IPV hot lines, local battered women shelters, and the local battered women's outreach program. For safety reasons, the IPV resources were combined with a list of general resources (i.e., health services, legal aid, parenting support, general

counseling services, alcohol and drug treatment, and shelters for the homeless). If screening negative, women received the list of general resources only. Computerized screening and referral was selected as the preferred method based on a pilot study showing higher rates of IPV disclosure and similar rates of use of referral resources compared to health care provider screening and referral [17].

2. A "resource-list-only" group in which all women were given the same computer printout as those screening positive in the "screenplus-resource-list" group without screening.

3. A "control" group in which women were neither screened nor given the IPV resource list, but were given the list of general resources. Although not all of these resources have been rigorously evaluated, none of the resources on this general list have been shown to have positive or negative health impacts among women experiencing IPV [18].

Measures

The following five outcomes were assessed at the one-year follow-up telephone interview:

Knowledge of the prevalence of IPV was based on women's answer to the question: "If there were 10 women from your neighborhood sitting in a room, how many of these women would you guess have ever been physically, verbally, emotionally, or sexually threatened or harmed by an intimate partner?". The "correct" answer corresponded to the observed prevalence in this study (±1) specifically among study participants at the clinic where they were enrolled. As a result, the correct answer was between 4 and 6 for women enrolled at 8 clinics, and between 3 and 5 or 5 and 7 for the remaining two. This question was previously used in a random digit dial survey [19].

Knowledge of the negative impact of IPV on health was based on women's answer to the following two questions: (a) "Which woman is more likely to have problems with her physical health: a woman who has been threatened or harmed by an intimate partner or a woman who has not - or are both of them equally likely to have physical health problems?" and (b) "Which woman is more likely to have problems with mental health such as anxiety, depression or substance abuse: a woman who has been threatened or harmed by an intimate partner or a woman who has not - or are both of them equally likely to have mental health problems?". Women responding that those who experience IPV are more likely to have problems with their physical and mental health were considered to have the correct knowledge.

Knowledge of availability of services for IPV: Women agreeing with the statement "Women who are hurt by their partners can get help if they need it" (Agree/Disagree) were considered to have this knowledge.

Knowledge of available services for women who experience IPV: Women were considered to know if they reported at least one local IPV agency in response to the question: "Where can a woman who is being hurt by an intimate partner get help in your community?".

Knowledge of responsibility for IPV: Women disagreeing with the statement "Women usually get hurt by their partners because of something the women did" (Agree/Disagree) were considered to have this knowledge.

Questions for outcomes two through five were developed specifically for this study. The study team reviewed several iterations of these questions until consensus was reached as to their face validity. They were subsequently tested among two English speakers and nine Spanish speakers and revised again to improve comprehension.

Demographic information, collected to establish the comparability of the study groups, was based on participants' self-reported age, highest level of education completed, insurance status, and racialethnic group.

Women's subgroup status according to their experience with IPV was determined by women's responses at the one-year follow-up interview to 18 questions adapted from the National Violence Against Women Survey [20]. Three questions asked about psychological abuse (e.g., called you names or belittled you"), four asked about partners' controlling behaviors (e.g., "tried to limit your contact with friends or family"), eight asked about partners' physical aggression without a weapon (e.g., "pushed, grabbed, or shoved you"), two asked about being threatened or assaulted by a partner with a weapon (e.g., used or threatened you with a knife"), and one asked about sexual abuse by a partner (i.e., "made you or tried to make you have vaginal, oral or anal sex"). Positive endorsement of any question was considered "experienced any IPV" and negative responses to all questions were considered "never experienced IPV". Women reporting any IPV were then asked if any of these experiences had occurred in the past year (if "yes", they were categorized as "experiencing IPV after enrollment") and also asked if any of these experiences had occurred in the year prior to enrolling in the study.

Procedures

Trained bilingual research assistants (RAs) approached potential participants in each clinic's waiting room to determine their interest and eligibility and obtain written consent from those eligible. RAs then accompanied participants to private rooms or kiosks equipped with touch-screen computers and headphones and started the ACASI. Interviews lasted an average of 20 minutes. Interviews and resources were available in both English and Spanish. After completion of the ACASI, the RA negotiated safe follow-up contact times and telephone numbers, a safe message to leave on an answering machine or if someone else answered, a code word the participant could use if interrupted during the follow-up interview and an address to send a reminder letter and a money order. Study participants were compensated $20 for the baseline interview and $15 for the follow-up interview.

A month before the one year follow-up Computer-Assisted Telephone Interview (CATI), the RA reminded participants of the upcoming interview, and updated their contact information using multiple techniques (i.e., mailed reminder letters, calls to women and their contacts, reviews of public access jail and death websites, and surveillance of the health care electronic appointment system). The research staff, blinded to study group assignment, conducted CATI follow-up interviews between 48 and 56 weeks following enrollment

during times negotiated with women at enrollment. On average, 8.8 attempts were made to locate women for the one year follow-up interview.

This study protocol was approved by the institutional review boards at the Centers for Disease Control and Prevention (CDC), the Cook County Hospital and Health Services, and Rush Medical University.

Statistical Analysis

Women were divided into four subgroups based on their responses to the questions on exposure to IPV: (1) women experiencing any IPV in their lifetime; (2) women experiencing IPV in the year previous to enrollment; (3) women experiencing IPV in the year after enrollment; and (4) women who had never experienced IPV. Descriptive statistics were used to compare demographic characteristics of participants across the three study groups and across the four IPV exposure subgroups as well as for each of the outcomes.

Logistic regression was used to test whether study condition interacted with exposure to IPV. Chi square tests (for categorical variables) or F ratios (for comparing means) were used to establish statistically significant differences between the four subgroups (based on experiences with IPV) and between the three randomly allocated study groups. Partitioned Chi Square [21] was used to compare pairwise differences. A sample size of 400 women in each group is required for a power of 80% to detect a difference of 10 percentage points with a two-tailed test at $\alpha = .05$.

Results

Of 3537 women approached, 161 (5%) did not meet eligibility criteria, 668 (19%) were not interested in participating, and 2708 (77%) were enrolled and randomized to one of three study groups (complete numbers and reasons for exclusion or non-participation available in [1]. One year after enrollment, 2364 (87%) women completed the follow-up interview (88.1% in arm 1; 86.5% in arm 2; 88.1% in arm 3) with no statistically significant differences (p=.23) in the proportion lost to follow-up by study group. Women assessed at follow-up were on average 39 years old, predominantly African American (54%) or Latina (38%), with a high school education or less (56%), and uninsured (58%) with no significant differences between study groups (Table 1).

Women lost to follow-up were an average of five years younger (p<. 001), more likely to have public insurance (p<.001) and have less formal education (p=.02) than women who completed the follow-up interview. The demographic characteristics of the four subgroups of women categorized according to their experiences with IPV did not significantly differ from the overall enrolled sample nor were there any significant differences between the three randomly allocated study groups in any of the four subgroups (data not shown).

Table 2 presents the percent of women who knew the prevalence, consequences and availability of help stratified by whether they had been exposed to IPV at any time during their life, exposed in the year prior to enrollment, the year after enrollment or never exposed by the randomly allocated study groups.

Overall, between 33% and 34% of women across the four IPV exposure subgroups knew the prevalence of IPV in their community; between 45% and 49% knew that IPV had adverse effects on physical health; between 63% and 67% knew IPV had adverse effects on mental health; between 94% and 96% knew help was available but only 16% to 17% were able to name at least one IPV agency in their community. Finally, between 82% and 86% of women knew IPV is not because of something a woman did ("not her fault"). None of the differences observed between the four subgroups of women according to their experiences with IPV were statistically significant.

The interaction between study arm and timing of exposure to IPV was statistically significant only for knowing IPV is not because of something the woman did ("not her fault"; p<.01). Specifically, among the subgroup of women experiencing IPV in the year prior to enrollment as well as the subgroup of women experiencing IPV in the year after enrollment there were statistically significant differences between the three randomly allocated study groups (see last column of Table 2). These differences were further explored using pair-wise analyses and partitioned Chi square. Among the subgroup of women experiencing IPV in the year prior to enrollment as well as the subgroup of women experiencing IPV in the year after enrollment, women receiving the resource list only were significantly less likely than the control group (p=.01 and p=.008 respectively) and the screened-plus-resource-list group (p=.002 and p < .001, respectively) to know that IPV is not because of something women did while the screened-plus-resource-list group was not significantly different from the control group.

Discussion

In this three-arm randomized controlled trial, there were no differences between women screened and provided with a IPV resource list compared to a control group as to women's awareness of the frequency of IPV, its impact on physical or mental health, or the availability of IPV services in their community. However, among women who were victims of IPV in the year before or year after enrollment, those who were provided a list of IPV resources without screening were significantly less likely to know that IPV is not the victim's fault than those in the control or list plus screening conditions.

Before discussing the implications of these findings, several limitations of the study must be acknowledged. A first set of limitations are potential sample biases. Although the participation rate was relatively high, we do not know if the 19% of nonparticipants differed from the participants. In addition, the 13% of those lost to follow-up were significantly younger, more likely to have public insurance, and have less formal education than women retained and may have differed in outcomes as well. However, because the proportion of those lost to follow-up was small and the demographic characteristics of the baseline sample did not differ from the sample retained, we would expect the impact of this attrition to have minimal effects on the estimates reported for each outcome. Furthermore, because there were no differences in loss to follow-up by allocation, the differences in outcomes by allocation should not be affected either. The findings may not generalize to other population groups as participants were limited to this urban setting, those with access to a telephone, African American or Latina, and less educated English or Spanish-speaking women.

Recall bias may also be a problem for the categorization of the subgroups according to their experiences with IPV. This categorization was based on responses to questions on exposure to IPV at the one-year follow-up. Exposure to IPV was not assessed at baseline to avoid "contamination" (i.e., the control group receiving the intervention). It is possible that some women may not have remembered experiencing IPV two years earlier (i.e., the year prior to enrollment). Others may have mistaken the period of time when they actually experienced IPV. However, because the same question was used for all three study groups and there were no significant differences in the proportion reporting IPV in the year before or after enrolling in the study between the study groups, these potential errors in classification should not affect the findings.

Recall bias may also be a problem in our measure of "knowledge of local IPV resources". The IPV list was provided a year earlier and women may not remember what was on the list. In addition, although the same measure was used across groups, recall may vary depending on the timing of exposure to IPV.

Measurement error is another potential limitation. Each of our measures of knowledge was based on one question. Although some of these items have been used previously [21], they have not been tested for validity or reliability. In addition, we did not establish or adjust for a baseline level of knowledge. However, given the lack of differences in demographic background or baseline scores for physical and mental health across allocation groups (see [1]), it appears that the randomization procedure worked well. Therefore we believe that differences in knowledge across groups at baseline were unlikely. Some questions (e.g., knowledge that help is available) may also have had a "ceiling effect" which makes differences between groups more difficult to detect. The results might be different among high risk women in communities where services were very limited, not well integrated, or new.

This trial had several important strengths such as random assignment, a no screen or resource list control group, small loss to follow-up, blinded assessment of outcomes, a mix of both public and private clinics, and a large number of Latina participants (who are often excluded from studies because of language barriers). These strengths far outweigh the limitations of this study.

There are few studies on the impact of interventions on women's knowledge of IPV. Although Spangaro et al.'s [11] cross-sectional survey suggested that screening might increase women's knowledge of IPV's frequency, its impact on health, and the availability of IPV resources, our findings suggest otherwise. The current findings are consistent with another study suggesting coordinated community responses to IPV had no impact on knowledge of the frequency of IPV [19]. Perhaps other factors not measured in this study, such as knowing family or friends experiencing partner violence or exposure to partner violence campaigns, might have influenced participants' knowledge.

Although possibly a statistical fluke given the multiple comparisons, the lower percentages of women who are currently experiencing IPV knowing that IPV is not because of something the woman did when provided a printed list of IPV resources without screening is

of concern. Runyan's rationale [13] for proposing this type of intervention seemed reasonable and experiences of increased self-referral when information like this is provided [22] made this approach attractive. However, women who were screened and saw the video heard that IPV is not a woman's fault; women only receiving the referral information did not hear this message. To better understand how referral only information may impact women and whether it is a safe practice, future studies might try to debrief participants to get their perceptions of this type of list.

Implications for Practice

The results of this study suggest that providing information on partner violence resources, with or without asking questions about partner violence did not result in improved knowledge. Additional research could increase our understanding of how women experiencing IPV interpret resource lists without screening, as has been suggested for states with mandatory reporting of IPV [23]. Moreover, as Morocco and Cole have suggested [24], research is needed to evaluate the effects of screening coupled with stronger interventions. In fact, trials showing positive impacts of screening plus stronger interventions such as a 30-minute counseling session [25] to multiple counseling sessions [4] suggest this is a promising direction for future efforts.

Acknowledgement

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Table 1

Demographic characteristics of women assessed at one-year follow-up.

Demographics	Screen plus IPV resource list (n=801)	IPV resource-list only (n=770)	No screen No list (n=791)	Total (n=2362)	P
Age, mean years (SD)	39.6 (14.9)	38.9 (14.7)	39.6(15.1)	39.4 (14.9)	.56
Race/ethnicity, No. (%) Non-Latina White	48 (6.0)	40 (5.2)	39 (4.9)	127 (5.4)	.70
Non-Latina African American	436 (54.4)	411 (53.4)	432 (54.6)	1279 (54.1)	
Latina	295 (36.8)	292 (37.9)	303 (38.3)	890 (37.7)	
Other	22 (2.7)	27 (3.5)	17 (2.1)	66 (2.8)	
Level of education					
< High school	194 (24.2)	212 (27.5)	212 (26.8)	618 (26.2)	.70
High school or GED	251 (31.3)	229 (29.7)	223 (28.2)	703 (29,8)	
Vocational or some college	272 (34.0)	250 (32.5)	275 (34.8)	797 (33.7)	
4 yr college	84 (10.5)	79 (10.3)	81 (10.2)	244 (10.3)	
Insurance status					
Uninsured	478 (59.7)	443 (57.5)	450 (56.9)	1371(58.0)	.47
Medicaid/care	257 (32.1)	271 (35.2)	268 (33.9)	796 (33.7)	
Private insurance	66 (8.2)	56 (7.3)	73 (9,2)	195 (8.3)	

Table 2

IPV Knowledge among women by IPV exposure and study condition.

Women reporting any lifetime IPV Know, No. (%)	Screened plus IPV resource list (n=417)	IPV resource-list only (n=404)	No screen No list (n=389)	Total (n=1210)	p
Prevalence	147 (35.3)	134 (33.2)	124 (31.8)	405 (33.4)	.58
Impacts physical health	217 (52.0)	197 (48.8)	178 (45.8)	592 (48.9)	.20
Impacts mental health	279 (66.9)	261 (64.6)	253 (65.2)	793 (65.6)	.77
Help is available	387 (92.8)	382 (94.6)	367 (94.3)	1136 (93.9)	.52
Local IPV resources	65 (15.6)	68 (16.8)	65 (16.7)	198 (16.4)	.87
Not a woman's fault	344 (82.5)	322 (79.9)	325 (83.8)	991 (82.0)	.35
Women reporting IPV year prior to enrollment Know, No. (%)	(n=120)	(n=116)	(n=110)	(n=346)	
Prevalence	35 (29.2)	48 (41.4)	35 (31.8)	118 (34.1)	.12
Impacts physical health	63 (52.5)	51 (44.0)	47 (42.7)	161 (46.5)	.26
Impacts mental health	89 (74.2)	67 (57.8)	76 (69.1)	232 (67.1)	.02
Help is available	108 (90.0)	112 (96.6)	104 (94.5)	324 (93.6)	.11
Local IPV resources	21 (17.5)	14 (12.1)	19 (17.3)	54 (15.6)	.44
Not a woman's fault	108 (90.0) a	87 (75.0)b	97 (88.2)a	54 (84.4)	.003
Women reporting IPV Year after enrollment Know, No. (%)	(n=130)	(n= 154)	(n=119)	(n=403)	
Prevalence	42 (32.3)	59 (38.3)	33 (27.7)	134 (33.3)	.18
Impacts physical health	67 (51.5)	76 (49.4)	49 (41.2)	192 (47.6)	.23
Impacts mental health	91 (70.0)	92 (59.7)	77 (64.7)	260 (64.5)	.20
Help is available	120 (92.3)	147 (95.5)	113 (95.0)	380 (94.3)	.49
Local IPV resources	18 (13.8)	28 (18.2)	22 (18.5)	68 (16.9)	.53
Not a woman's fault	120 (92.3) a	118 (76.6)b	106 (89.8)a	344 (85.6)	<.001
Women reporting never experiencing IPV Know, No. (%)	(n=384)	(n=366)	(n=402)	(n=1152)	
Prevalence	128 (33.3)	114 (31.1)	146 (36.3)	388 (33.7)	.31

Women reporting any lifetime IPV Know, No. (%)	Screened plus IPV resource list (n=417)	IPV resource-list only (n=404)	No screen No list (n=389)	Total (n=1210)	p
Impacts physical health	184 (47.9)	146 (39.9)	182 (45.6)	512 (44.6)	.08
Impacts mental health	249 (64.8)	216 (59.2)	255 (63.6)	720 (62.6)	.24
Help is available	366 (95.6)	353 (96.4)	384 (95.5)	1103 (95.8)	.77
Local IPV resources	64 (16.7)	61 (16.7)	72 (17.9)	197 (17.1)	.87
Not a woman's fault	329 (85.9)	302 (82.7)	332 (82.6)	963 (83.7)	.37